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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/880,923 | 06/15/2001 | Chul-min Kim | P56416 | 5673 |

7590 09/19/2006
Robert E. Bushnell
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EXAMINER

FLETCHER, JAMES A

| ART UNIT | PAPER NUMBER |
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2621

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 09/880,923 | Applicant(s) KIM, CHUL-MIN | |
| | Examiner James A. Fletcher | Art Unit 2621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-15 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection. The Examiner will address certain points of the arguments, however.

In re page 3, Applicant's Representative states: "There is no mention in lines 8-9 of a video recording/reproducing processor."

The Examiner respectfully disagrees. The term "processor" is very broad, and can be taken to mean virtually any apparatus that provides a process. Clearly, the laser video disk master provides a recording/reproducing process.

In re page 4, Applicant's Representative states: "Sturm's composite synchronization dividing unit is connected to the output of video buffer 90, and video buffer 90 has not been deemed to correspond to, and does not correspond to, the claimed video recording/reproducing processor."

The Examiner refers the Applicant's Representative to the response to pge 3 above.

In re page 5, Applicant's Representative states: "the LM1881 does not output a separated horizontal sync signal, but instead additionally outputs a composite sync signal and a burst/back porch output."

The Examiner notes that there is no recitation of a horizontal sync output in claim 1. The recitation is for a vertical sync being separated from a composite sync, and the vertical sync output of the LM1881 meets this limitation. The Examiner further notes

that the specification of the invention does not support a separate horizontal sync signal.

In re page 7, Applicant's Representative states: "we hold that the taking of Official Notice is deficient, and request the Examiner identify which component is being deemed to correspond to the claimed single chip video signal processing integrated circuit comprising, where the pin port is located, and where it is suggested that such a port have both functions of outputting the vertical synchronization signal and inputting a quasi vertical synchronization signal."

The Examiner will show that the level of integration is not a patentably distinct feature, nor is the use of a bidirectional pin on an integrated circuit used in a recorder/reproducer comprising integrated circuits, and that such features are known to those of skill in the art.

2. Applicant's arguments, see page 9, filed 6 July 2006, with respect to claim 14 have been fully considered and are persuasive. The rejection of claim 14 has been withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sturm et al (5,260,800), and further in view of National Semiconductor (LM1881 datasheet), Dumont et al (6,628,888), and Monti (5,557,236).

Regarding claim 1, Sturm et al disclose a video signal processing circuit for use in a video recording/reproducing apparatus comprising:

- a video recording/reproducing processor for providing a video signal to be recorded on a storage medium and for reproducing a video signal recorded on the storage medium (Col 3, lines 8-9);
- a composite synchronization dividing unit for separating a composite synchronization signal from a video signal output by the video recording/reproducing processor (Col 7, lines 1-8);
- a quasi vertical synchronization inserting unit for inserting a quasi vertical synchronization signal in the video signal output from the video recording/reproducing processor (Col 3, lines 33-37);
- Sturm discloses the use of horizontal sync signals separately from vertical sync signals, and specifically suggests a sync separator circuit that has separate horizontal and vertical outputs (Col 4, lines 17-37), but does not specifically disclose a vertical synchronization dividing unit for separating a vertical synchronization signal from the composite synchronization signal.

National Semiconductor teaches a sync separator with separate horizontal and vertical outputs, providing signals that can be used for the various timing

circuits in televisions and other video processing equipment, and as such is well known, commercially available, and widely used.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sturm et al in order to provide separate vertical sync signals.

- Sturm discloses a processor for recording and reproducing video signals, but does so on separate media.

Dumont et al teaches a video cassette recorder/player comprising integrated circuits that reads from and writes to the same medium (Col 2, line 61 – Col 3 line 29).

As taught by Dumont et al, a recorder comprising integrated circuits that is capable of reproducing from the medium it records on is well known, commercially available, and widely used, providing the manufacturer and the user with an economical and convenient means of storing and reproducing various signal streams.

Therefore, it would have been obvious to one of skill in the art to modify Dumont in order to include a processor comprising integrated circuits for recording to and reproducing from the same media.

- Sturm discloses the use of integrated circuits in a video recording/reproducing processor, but does not disclose a level of integration combining multiple functions into one integrated circuit.

Applicant's admitted prior art discloses an increasing level of integration of various signal-processing functions (Page 2, lines 4-12). Further, Dumont et al teaches high levels of integration, in that he discloses that simple functions can be integrated into a microprocessor (Col 2, line 61 – Col 3, line 29).

As admitted by the applicant, and taught by Dumont et al, increasing levels of integration in integrated circuits is well-known and commercially available, providing the manufacturer with an economical and easily manufactured way of providing complex functions to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sturm in order to provide an integrated circuit with additional functionality.

- Sturm discloses the use of a bidirectional pin port (Col 12, lines 14-23), but does not specifically disclose a switch to guide the output and input signals.

Monti teaches an integrated circuit with a bidirectional pin and a switch to guide the input and output signals as is appropriate to the immediate needs of the device in which it is installed. (Col 2, lines 53-64).

As taught by Monti, a switch to direct an output signal from an active output to a bidirectional pin, or to direct an input signal to an active input from a bidirectional pin, is well known, widely used, and commercially available, providing the manufacturer and the user with a cost savings over using individual pins and traces for signals that are not simultaneously required by the device in which it is installed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Sturm in order to disclose the use of a switch inside the integrated circuit to guide input signals to an active input and output signals to an active output.

Allowable Subject Matter

5. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not fairly disclose, teach, or suggest a bidirectional sync signal pin operating as an input port in special reproducing mode and as an output port in other modes.

6. Claims 6-15 are allowed.

The prior art does not fairly disclose, teach, or suggest a bidirectional sync signal pin on an integrated circuit operating as an input port in special reproducing mode and as an output port in other modes.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fletcher whose telephone number is (571) 272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF
11 September 2006


James J. Groody
Supervisory Patent Examiner
Art Unit-262 2621